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ABSTRACT

A study determined the extent of gender stratification in Finnish vocational education and labor force, especially in the transition from school to work. It used follow-up data that Statistics Finland gathered in 1990 concerning the labor force status of the 1985 school leavers and the level of their educational qualifications 5 years later to identify gender-related differences in students' choices in vocational education, transition from school to work, and various occupations. Only data relating to vocational institution leavers were used. Findings indicated there were still gender differences in vocational educational and in occupational choices. Women and men made traditional choices both in education and in the labor force. Female-intensive fields of vocational education and the labor force included the clothing industry, home and institutional economics, and social services. Correspondingly, male-dominated programs were as follows: heat, water and ventilation technology; mechanical engineering; vehicle and transportation technology; electrical engineering; forestry; and seafaring. (Contains 26 references.) (YLB)

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GENDER STRATIFICATION IN VOCATIONAL EDUCATION AND THE LABOUR FORCE IN FINLAND

Marja-Leena Stenström

ABSTRACT

The purpose of this article is to give an overview of gender stratification in Finnish vocational education and labour force. The data highlight the enrolment patterns of Finnish vocational programmes, the transition from school to work and the Finnish labour force. The target of vocational education policy in Finland has been that at least 30% of the minority gender would be represented in all occupational fields. However, vocational education often follows the gender-segregated patterns of the labour force. The findings showed that there are still gender differences in vocational educational and in occupational choices. Women and men make traditional choices both in education and in the labour force. Female-intensive fields of vocational education and the labour force included the clothing industry, home and institutional economics, and social services. Correspondingly, male programmes were heat, water and ventilation technology, mechanical engineering, vehicle and transportation technology, electrical engineering, forestry and seafaring.

Descriptors: *gender, stratification, equity, education, the labour force*

INTRODUCTION

One of the main principles in Finnish education policy is that post-compulsory education is available to the whole age group. More than half of comprehensive school leavers continue their studies in the general upper secondary school and nearly 40 per cent in vocational education. On the whole, about 90 per cent of comprehensive and general upper secondary school leavers continue their studies (Ministry of Education, 1994).

Currently, Finnish vocational training programmes are grouped by occupational sector. Vocational education is organized in 26 branches including over 200 specialization lines. These branches lead to three different levels

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of vocational qualifications: school-level certificates, college-level diplomas, and higher vocational degrees (National Board of Education, 1991).

The target of Finnish vocational education has been that at least 30 % of the minority gender would be represented in all occupational fields (Parviainen & Kyrö, 1990). However, vocational education often follows the gender-segregated patterns of the labour force. Girls choose service and care branches, boys go for technical and vocational schools. This division has remained almost unchanged for the last 40 years and is clearest at the lowest levels of vocational education (Anttalainen, 1993).

The structure of industries has undergone major changes in Finland during the past few decades. The change from an agrarian-industrial to a post-industrial service society has meant a rapid expansion in female-dominated occupations. This has resulted in women participating more and more in working life (Haavio & Malm, 1993). Since the 1950s and 1960s Finnish women have become increasingly dependent on their own paid work. In the 1950s, women entered the non-agricultural labour market (e.g. industry). Since the 1960s the public sector has been women's most important employer, having taken over some of the traditional key tasks of the home (e.g. childcare and education). Women's entry into the labour market has been an answer to the prevailing social circumstances and the need of labour, not the outcome of an equal opportunities policy. Equal opportunity policies were actively pursued during the 1970s and 1980s to abolish discrimination in the labour market (Allen, 1993).

The purpose of this article is to give an overview of gender stratification in Finnish vocational education and labour force, especially as regards the transition from school to work. The specific research problems are the following:

① What kinds of gender-related differences exist in students' choices in vocational education?

② What kinds of gender-related differences exist in transition from school to work?

③ What kinds of gender-related differences exist in occupational fields?

The data highlight the enrolment patterns of Finnish vocational programmes, the transition from school to work and the Finnish labour force. They are derived from the official Finnish statistics and cover the whole of Finland. This paper is based mainly on the follow-up data which Statistics Finland gathered in 1990 concerning the labour force status of the 1985 school leavers and the level of their educational qualifications five years later. This paper describes only the data relating to vocational institution leavers.

OVERVIEW OF GENDER STRATIFICATION IN EDUCATION AND THE LABOUR FORCE

Theories of gender inequality focus on societal structures and processes that affect a variety of areas among men and women in a society (Almquist, 1991). Several studies of occupational choice use gender as a critical component in the decision-making process. One of them is Gottfredson's theory (1981), which presents a circumscription formulation of career choice. Individuals gradually build up a space of acceptable occupations on the basis of four general criteria: gender, status, field of interest and accessibility of training and jobs. In developmental terms, the gender criterion appears first, the social status criterion after that while the psychological criterion, the field of interest, is the third criterion to emerge. Spanish research (Sastre & Mullet, 1992) showed that Gottfredson's theory has the greatest validity for girls.

Another gender-related viewpoint on occupational choices is the concept of closure as elaborated in the Neo-Weberian tradition. Neo-Weberians have used the concept in the analysis of professionalization, seen by them as a strategy of social closure. Professionalization has also been related to power, the various institutional forms of occupational control. Therefore women's professional jobs are often semi-professional (Birkelund, 1992). Female-dominated occupations tend to have lower wages, more restricted possibilities for occupational advancement, and less on-the-job training than do occupations dominated by males (Charles, 1992).

According to Haavio-Mannila (1990), the division of labour between the genders is based on the gender role stereotypes originating with the family and other social institutions, including parenthood. The stereotypical feminine jobs follow the same patterns as women's traditional tasks at home. Female jobs are often related to service and taking care of others and to teaching. The traditional male-intensive jobs include more often management duties and are related to technology and productivity.

CHOICES IN VOCATIONAL EDUCATION

In Finland, the admission of new students to vocational education is nationally organized by the joint selection procedures. They include nearly all the programmes which can be entered directly after comprehensive or general upper secondary education. Bonus points for gender are given to applicants choosing a programme where the majority of the opposite gender exceeds two thirds. This arrangement is intended to encourage students to make nontraditional educational choices (National Board of Education, 1991).

In general, male students continue their post-comprehensive studies in vocational institutions, whereas female students go to the general upper secondary schools. Statistics Finland (1994) indicates that in 1992 female students (61 %) continue their studies in the general upper secondary schools more often than do male students (42 %), who in their turn (43 %) continue their studies in vocational institutions more often than do female students (23 %). The proportion of those proceeding to the upper secondary school has increased in recent years, while that of those proceeding to vocational schools has remained at around a third.

Table 1 presents male and female students' choices in Finnish vocational programmes in 1990 and 1993. The fields of vocational study have been divided into men's (91-100 per cent), male-dominated (61-90 per cent), mixed (41-60 per cent), female dominated (61-90 per cent) and women's fields (91-100 per cent) according to the proportion of male and female students. The data show that the fields of vocational study are differentiated by gender. Of all the students entering vocational institutions, less than 5 per cent were in the mixed fields with 41-60 per cent of men and women. Female-dominated fields included the clothing industry, home and institutional economics and the social services. Correspondingly, male-dominated fields were heat, water and ventilation engineering, mechanical engineering, vehicle and transportation technology, electrical engineering, woodworking and the construction industry. Typically, service and caring professions are female areas, whereas engineering, technology and primary production are male areas. In general, changes are slow. The statistics indicated that there were few changes in the gender-dominated fields in the short time between 1990 and 1993. However, it seems that men's fields have increased.

The above findings described the distribution of students' vocational education. A close exploration of the level of their vocational qualifications in 1993 indicated that there are additional differences between the genders in the educational level of such qualifications. More than half of the students were females in school- (55 %) and college/institute-level (66 %) education, while the majority in higher vocational education (78 %) and the polytechnics (52 %) were male students. These findings are similar to those of a variety of empirical and theoretical studies.

Research on the commercial education programme has indicated (Stenström, 1992, 1993) that men applied to the college level three times more often than women regardless of their achievement, that is, they ventured to apply to a higher educational level than females despite their lower school achievement. This result supports Gottfredson's theory (1981) of occupational aspirations and choice because the effect of gender was stronger than the effect of status as measured by father's education. Further, the results verified earlier research findings which seemed to suggest that females preferred jobs which had lower status than male jobs.

Also, the motives for choosing an occupation seemed to differ by gender. Men valued the high status of an occupation whereas women valued the

Table 1. *Fields of Vocational Education Chosen by Male and Female Finnish Students in 1993*

1990		1993
	Men's fields (91-100 %)	
Heat, water and ventilation		Heat, water and ventilation
Mechanical engineering		Mechanical engineering
Vehicles and transportation		Electrical engineering
Electrical engineering		Vehicles and transportation
Woodworking		Forestry and wood industry
Construction industry		Woodworking
		Construction industry
	Male-dominated (61-90 %)	
Fishing		Fishing
Forestry and wood industry		Seafaring
Seafaring		Surveying
Surface treatment		Surface treatment
Agriculture		Printing industry
Surveying		Agriculture
	Mixed (41-60 %)	
Chemical engineering		Chemical engineering
Printing industry		Media studies
Dairying		Dairying
		Food processing
	Female-dominated (61-90 %)	
Food processing		Commerce and administration
Hotel and catering		Hotel and catering
Textile industry		Crafts and design
Commerce and administration		Horticulture
Horticulture		Health care
Crafts and design		
	Women's fields (91-100 %)	
Health care		Textile industry
Social services		Social services
Home and institutional economics		Home and institutional economics
Clothing industry		Clothing industry

Sources: Tilastokeskus. (1991). *Ammatillisten oppilaitosten oppilaiksi otetut ja oppilaat 1990* [Students of vocational institutions 1990]. Koulutus ja tutkimus 4. Helsinki: Tilastokeskus.
Tilastokeskus. (1994). *Ammatillisten oppilaitosten opiskelijat 1993* [Students of vocational institutions 1993]. Koulutus ja tutkimus 4. Helsinki: Tilastokeskus.

opportunity to work with people. For females, on the other hand, working conditions had greater importance. Furthermore, the males considered career prospects and independent work important, while the females emphasized the possibility to work with people and the desire to help them (Stenström, 1993).

Kauppinen-Toropainen (1993) argues that most occupations have gender labels. Some occupations are associated with masculine characteristics and some with feminine characteristics. Technical and managerial jobs have been seen as suitable for men, requiring as they do technical expertise, rationality and authority. Caring work and human relations jobs have been seen suitable for women, requiring as they do socialibility, consideration and adaptibility.

TRANSITION FROM SCHOOL TO WORK

One way to describe gender stratification is to examine the transition from school to work. Statistics Finland collected follow-up data in 1990 about people who graduated in 1985. Table 2 describes patterns of vocational studies five years later.

The results showed that more men (84 %) than women (75 %) had the same certificate five years later. Typically, women had taken up further studies. The female leavers of the male dominated and women's fields had mostly studied. They had taken a different qualification both at the same educational level and at a different level than men. The reason might be that the economic recession in the early 1990s caused a rapid deterioration in the employment situation. The recession touched mainly male-dominated industries. Later, its effects have centered on female-dominated and women's industries.

Studies have indicated that the person who makes a nontraditional choice needs strong self-confidence. Further, the structure and patterns of the labour market do not tend to support nontraditional choices. Nontraditional choices require workers to meet a traditional working culture with its own regulations and social norms.

Table 3 indicates the type of transition from school to work five years after a graduation in 1985, when unemployment started to rise in Finland. Some areas such as construction industry and surface treatment had a high unemployment rate.

Table 2. *The Vocational Diploma in 1990 of Male and Female 1985 Vocational Institution Leavers*

Field of study 1985	Qualification in 1990				Total	
	Same		Different			
	Females	Males	Females	Males	Females	Males
	%	%	%	%	N	N
Men's fields (men 91-100%)						
Heat, water and ventilation	100.0	93.8	0.0	6.2	10	672
Vehicles and transportation	88.6	83.2	11.4	16.8	44	2938
Mechanical engineering	76.5	83.7	23.5	16.3	132	5681
Woodworking	75.0	91.2	8.8	25.0	36	964
Electrical engineering	83.2	82.7	16.8	17.3	220	4515
Forestry and wood industry	50.8	69.2	49.2	30.8	65	1105
Subtotal	77.5	83.2	22.5	16.8	507	15875
Male-dominated (61-90 %)						
Construction industry	82.0	93.3	6.7	18.0	323	2690
Seafaring	78.4	72.0	21.6	28.0	37	282
Fishing	83.3	77.4	16.7	22.6	6	31
Surface treatment	83.7	90.9	9.1	16.3	43	164
Agriculture	63.2	80.7	36.8	19.3	877	2075
Textile industry	57.1	78.6	42.6	21.4	7	14
Subtotal	69.1	87.0	30.9	13.0	1293	5256
Mixed (41-60 %)						
Printing industry	92.8	94.4	7.2	5.6	153	198
Chemical engineering	82.9	84.4	15.6	17.1	474	505
Dairying	43.8	66.7	56.2	33.3	48	39
Surveying	87.3	76.7	12.7	23.3	118	90
Subtotal	83.1	85.1	16.9	14.9	793	832
Female-dominated (61-90 %)						
Commerce and administration	89.3	84.7	24.6	15.3	280	157
Crafts and design	78.7	58.8	21.3	41.2	1346	484
Horticulture	62.7	73.6	37.3	26.4	483	201
Food processing	75.4	84.7	24.6	15.3	280	157
Hotel and catering	74.2	76.1	25.8	23.9	3988	980
Subtotal	81.6	84.1	18.4	15.9	15173	5358
Women's fields (91-100 %)						
Health care	81.6	84.5	18.4	15.5	8285	695
Social services	85.1	83.0	14.9	17.0	1146	47
Clothing industry	68.4	100.0	31.6	0.0	1277	19
Home and institutional economics	45.0	58.8	55.0	41.2	5787	17
Subtotal	68.0	84.2	32.0	15.8	16495	778

Source: Tilastokeskus. (1993). *Koulusta työelämään*. Tutkinnon suorittaneiden jatko-opinnot ja työhön sijoittuminen [From school to work. Further studies and employment status of vocational school leavers]. Koulutus 12. Helsinki: Hakapaino.

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Table 3. *Activities of Male and Female 1985 Vocational Institution Leavers Five Years Later*

Field of study 1985	Activity 1990					
	Employed		Unemployed		Other *)	
	F	M	F	M	F	M
	%	%	%	%	%	%
Men's fields (91-100 %)						
Heat, water and ventilation	90.0	87.3	10.0	5.2	0.0	7.5
Vehicles and transportation	84.6	86.5	5.1	6.5	10.3	7.0
Mechanical engineering	86.1	85.0	1.0	7.8	12.9	7.2
Woodworking	66.7	84.2	11.1	7.2	22.2	8.6
Electrical engineering	84.7	85.9	1.1	4.3	14.2	9.7
Forestry and wood industry	78.8	80.6	9.1	7.2	12.1	12.2
Subtotal	83.5	85.3	3.0	6.4	13.5	8.3
Male-dominated (61-90 %)						
Construction industry	83.8	82.2	2.2	11.0	14.0	6.8
Seafaring	69.0	74.4	6.9	9.4	24.1	16.2
Fishing	80.0	95.8	0.0	0.0	20.0	4.2
Surface treatment	66.7	77.2	13.9	16.8	19.4	6.0
Agriculture	78.7	89.2	1.2	2.9	19.9	7.9
Textile industry	75.0	90.9	0.0	9.1	25.0	0.0
Subtotal	79.4	84.3	2.3	8.1	18.3	7.6
Mixed (41-60 %)						
Printing industry	81.7	90.9	2.8	1.6	15.5	7.5
Chemical engineering	80.9	88.0	2.5	5.9	16.6	6.1
Dairying	95.2	96.1	0.0	3.9	4.8	0.0
Surveying	85.4	89.9	6.8	2.1	7.8	7.2
Subtotal	82.2	89.2	3.2	4.4	14.6	6.4
Female-dominated (61-90 %)						
Commerce and administration	84.3	90.0	3.7	2.8	12.0	7.2
Crafts and design	67.2	81.1	5.2	7.9	27.6	11.0
Horticulture	74.3	81.8	4.6	6.7	21.1	11.5
Food processing	80.6	91.0	1.9	4.5	17.5	4.5
Hotel and catering	74.4	85.9	6.3	5.6	19.3	8.5
Subtotal	80.5	88.3	4.4	3.9	15.1	7.8
Women's fields (91-100 %)						
Health care	75.0	90.9	0.0	9.1	25.0	0.0
Social services	82.9	94.9	0.9	0.0	16.2	5.1
Clothing industry	72.3	84.2	5.7	5.3	22.0	10.5
Home and institutional economics	67.9	70.0	5.3	10.0	29.9	20.0
Subtotal	78.7	91.0	2.1	1.2	19.2	7.8

* means mostly studying

Source: Tilastokeskus. (1993). *Koulusta työelämään*. Tutkinnon suorittaneiden jatko-opinnot ja työhön sijoittuminen 1990 [From school to work Further studies and employment status of vocational school leavers]. Koulutus 12. Helsinki: Hakapaino.

We see that male and female students choose somewhat different fields of study.

The results showed that men (86 %) were employed more often than women (80 %) irrespective of the vocational programmes they had completed. Also, men were unemployed more often than women. Women seemed to be more interested in studying in almost every occupational area. However, there were no big differences between male and female fields in terms of employment status except in case of women's fields where women were studying more often than men. In general, nontraditional choices are more often associated with unemployment or with further studies taken up because of the unemployment than are traditional choices. Although the results did not support such assumptions, they might be one explanation for the persistence of traditional educational choices and for women's further studies.

EMPLOYMENT PATTERNS

The segregation of men and women at work occurs along many dimensions. We see that the Finnish labour market has two different labour forces. Most (85 %) of those employed in the service trades are female while 89% of those employed in engineering-related jobs are male. The increase in women's employment has been linked to a broadening of the service sector. Women work in the public sector more often than men. Most of these women are employed by local administration, most men being in government service. Finnish local administration is largely responsible for health care, social work and education (Anttalainen, 1993). Table 4 indicates how the Finnish occupational fields have been differentiated by gender in 1992.

The statistics from the year 1990 concern all those who left school in 1985 and those from the year of 1993 all employed persons in Finland. In 1990, jobs in technology, science, the law, the humanities and the arts also included health care and social work. Both sets of statistics describing Finnish labour force patterns indicate that women's work is concentrated in social and personal services, whereas men's areas are industry-related. Women and men work in different fields and, even within the same field, in different positions. One of the widespread features of the workplace is that jobs are gender-typed as women's and men's work respectively (West & Zimmerman, 1991). Occupational gender segregation is one feature in the segmentation of the labour market. Usually this means that women and men working in different occupations have different duties.

Women's weaker position in the labour force is manifested also in their salaries. Women's salaries are 73 per cent of men's salaries. Women who have undergone upper secondary vocational education earn 79 per cent of men's

Table 4. *The Percentage of Male and Female Employees in Various Industries and Occupations in 1990 and 1993*

Industry or occupation	1990 Females %	Males %	1993 Females %	Males %
Technical, scientific,juridical, humanistic and artistic work	37.6	22.5	12.8	16.8
Health care and social work	-	-	21.9	2.6
Managerial, administrative and clerical work	24.3	4.9	22.6	11.6
Commerce	6.8	8.4	11.2	8.1
Agriculture, forestry and fishing	4.8	6.8	5.8	11.2
Transport and communication	2.1	7.2	2.4	9.6
Manufacturing, machine operation, mining and quarrying	6.0	37.9	7.5	32.3
Service work	17.4	10.9	15.4	7.3
Unknown	1.0	1.4	0.4	0.5
Unknown occupation	1.0	1.4	1.1	
Total	100.0	100.0	100.0	100.0

Source: Tilastokeskus. (1993). *Koulusta työelämään. Tutkinnon suorittaneiden jatko-opinnot ja työhön sijoittuminen 1990* [From school to work. Further studies and employment status of vocational school leavers]. Koulutus 12. Helsinki: Hakapaino.
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salaries (Lahelma, 1992). Women's wages and salaries are lower both in industry and in service and clerical work.

CONCLUSION

The results showed that there are still gender differences in vocational educational and in occupational choices. Women and men make traditional choices both in education and in the labour force. Female-intensive fields of vocational education included the clothing industry, home and institutional economics and social services. Correspondingly, male programmes were heat, water and ventilation engineering, mechanical engineering, vehicle and transportation technology, electrical engineering, woodworking and the construction industry.

Gender-related differences were also observed in the level of vocational qualifications. Over half of the students were females in school- and college-

level education, while the majority in higher vocational education and the polytechnics were male students. Further, women's work was concentrated in social and personal services, whereas men's areas were industry-related. Finnish statistics indicated that vocational education often follows the gender-segregated patterns of the labour force. The follow-up study revealed that five years from graduation, more men than women were employed. Correspondingly, women seemed to be more interested in studying in almost every occupational area.

Despite women's qualifications and their participation in working life, their position on the labour market is not equal to men's. Although Finnish women have a relatively strong position and long traditions of being active in working life, there are few women in the top positions of the labour force. One explanation of gender differences in educational and occupational choices is based on the viewpoint that visible and concrete attributes, such as gender, are built into one's self-concept and influence career preferences at an early age (cf. Gottfredson, 1981). Another explanation is that women and men are more similar than different in most work-related attitudes and perceptions, and differences in behaviour are as likely to arise from organizational and societal factors (Hackett, Lent & Greenhaus, 1991).

According to Julkunen (1990), even a modern welfare-state like Finland has been unable to solve the fundamental contradiction in women's life: production vs. reproduction. Working life and the family are institutionally separated, but in individuals' daily lives they are combined. Women are responsible for social reproduction both in their private lives and on the labour market (Rantalaiho, 1993).

A basic reason for gender differentiation are the values of society and working life. A study (Lasonen, Burge & Finch, 1994) of Finnish vocational teachers' gender-role attitudes indicated that male teachers followed the patterns associated with the gender-segregated division of labour, whereas females' gender roles were more compatible with progressive equity legislation policies. Further, many other studies have indicated that the differences between female and male fields and occupational status reflect the gender division of the culture as well as the features of the gender system (Burge & Stenström, 1995; Lips, 1993). However, student counselling and student selection can be used as the means to equalize gender distribution. Another way is to try to equalize the application pattern of the students through the recruitment and retention of gender nontraditionals. Burge and Culver (1993) have found that barriers for gender equity can be found in vocational education and the workplace. These barriers can be divided into three categories: structural barriers, external barriers and support availability barriers. Strategies to reduce these barriers have to include the recruitment of learners in areas nontraditional to their gender and the promotion of teacher and student interaction.

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